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(+)-8-Hydroxy-labdan-17-oic Acid

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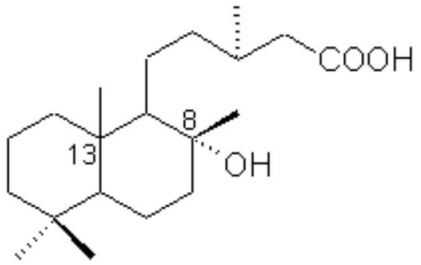

1

Hanson [1,2] reported a compound with $[a]_D$ = -7° and identical IR and NMR spectral data to our compound. He named this compound (-)-8-hydroxy labdan-17-oic acid. By comparison with the spectroscopy data and the specific rotation of the above compound, our results lead to (+)-8-hydroxy-labdan-17-oic acid (structure **1**). It is a stereoisomer of labdanoic acid. The relative configurations of the carbons from C1 to C10 were deduced by comparison of the ^{13}C-NMR resonances with the data for 8-epi-sclareol and sclareol [3]. The configuration at C13 has not yet been established. The HMBC and HMQC spectra confirm the structure **1**.

Dried and pulverised leaves (1 kg) of *Espeletiopsis muisca* were extracted with Petrol (69g) and then 10 g of this extract were subjected to column chromatography on silica gel using Petrol, CH_2Cl_2 and AcOEt. The fractions in AcOEt were again chromatographed on silica gel with Petrol: AcOEt and the first fraction yielded the pure title compound **1**. White crystals, 90 mg from MeOH.

M.p. 68 °C.

$[a]_D$ = + 5° (c = 0.025, $CHCl_3$)

IR (l_{max}): 3500, 2700, 3600, 3300, 1690 cm^{-1}.

^{1}H-NMR (d, ppm, $CDCl_3$): 0.75, 0.9, 0.96, 0.98, 1.05, 1.19 (CH_3), 4.8 (OH) ; 1.4 and 2.5 (m, CH and CH_2).

^{13}C-NMR (d, ppm, $CDCl_3$): 178.5 (C), 74.9 (C), 55.28 (CH), 44.3 (CH_2), 42.1 (CH_2), 41.2 (CH_2), 41.2 (CH_2), 40.8* (CH_2), 39.2 (CH_2), 33.49 (C), 33.2 (CH_3), 30.2 (CH), 23.9* (CH_3), 22.1* (CH_3), 21.5 (CH_3), 20.5 (CH_2), 20(CH_2), 18.5(CH_2), 15.5 (CH_3).

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Sample availability: Available from the authors.